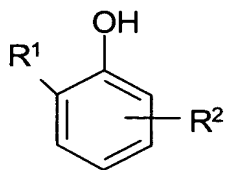


What is claimed is:

1. A process for preparing 2-alkylpolyisobutenylphenols and their Mannich adducts,  
by
  - a) contacting at least one 2-alkylhydroxyaromatic compound with a catalytically active amount of a  $\text{BF}_3$  source which is capable of complex formation with the 2-alkylhydroxy compound, and alkylating with substantially monoethylenically unsaturated and substantially homopolymeric polyisobutenes,
  - b) if appropriate, subjecting the 2-alkylpolyisobutenylphenols obtained in step a) to an aminoalkylation.
2. The process according to claim 1, wherein the  $\text{BF}_3$  source used in step a) is selected from
  - i) gaseous  $\text{BF}_3$ ,
  - ii)  $\text{BF}_3$  complexes with at least one of the 2-alkylhydroxyaromatic compounds used in step a),
  - iii)  $\text{BF}_3$  complexes with hydroxyaromatic compounds which are substantially not alkylated under the reaction conditions in step a), and
  - iv) mixtures of  $\text{BF}_3$  with aliphatic alcohols which comprise less than 2 mol of alcohol per mole of  $\text{BF}_3$ .
3. The process according to claim 2, wherein the hydroxyaromatic compounds of the  $\text{BF}_3$  complexes iii) used as the  $\text{BF}_3$  source are selected from 2,4,6-trialkylphenols and 4-halophenols.
4. The process according to claim 2, wherein the molar ratio of alcohol to  $\text{BF}_3$  in the mixture of  $\text{BF}_3$  with aliphatic alcohols iv) which is used as the  $\text{BF}_3$  source is at most 1.9:1, preferably at most 1.5:1, in particular at most 1.1:1.
5. The process according to any of the preceding claims, wherein the 2-alkylhydroxyaromatic compound is contacted with the  $\text{BF}_3$  source and alkylated with the polyisobutenes at a temperature of at most  $40^\circ\text{C}$ , preferably of at most  $30^\circ\text{C}$ .
6. The process according to any of the preceding claims, wherein the 2-alkylhydroxyaromatic compound is contacted with the  $\text{BF}_3$  source at a temperature of at most  $20^\circ\text{C}$ , preferably of at most  $10^\circ\text{C}$ .
7. The process according to any of the preceding claims, wherein the 2-alkylhydroxyaromatic compound used for the alkylation in step a) is selected from compounds of the general formula I



(I)

where

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R<sup>1</sup> is C<sub>1</sub>-C<sub>20</sub>-alkyl and

R<sup>2</sup> is hydrogen, C<sub>1</sub>-C<sub>20</sub>-alkyl, hydroxyl or C<sub>2</sub>-C<sub>4000</sub>-alkyl which is interrupted by at least one moiety which is selected from O, S and NR<sup>3</sup> where R<sup>3</sup> is hydrogen, alkyl, cycloalkyl or aryl.

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8. The process according to claim 7, wherein R<sup>1</sup> and/or R<sup>2</sup> are each a C<sub>1</sub>-C<sub>20</sub>-alkyl radical which has at least one tertiary or quaternary carbon atom.

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9. The process according to either of claims 7 and 8, wherein R<sup>1</sup> is a C<sub>1</sub>-C<sub>20</sub>-alkyl radical and R<sup>2</sup> is hydrogen, and the 2-alkylpolyisobutenylphenols obtained in step a) are subjected to an aminoalkylation in step b).

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10. The process according to either of claims 7 and 8, wherein R<sup>2</sup> is a radical other than hydrogen which is bonded to the benzene ring in the 6-position.

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11. A composition comprising at least one 2-alkylpolyisobutenylphenol and/or at least one Mannich adduct thereof, obtainable by a process according to any of claims 1 to 10.

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12. The composition according to claim 11, which is obtainable by alkylating at least one 2-alkylhydroxyaromatic compound of the general formula I where R<sup>1</sup> and/or R<sup>2</sup> are each a C<sub>1</sub>-C<sub>20</sub>-alkyl radical which has at least one tertiary or quaternary carbon atom.

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13. The composition according to claim 12, which has at least 90% by weight of at least one 2-alkylpolyisobutenylphenol and/or at least one Mannich adduct thereof.

14. The composition according to any of claims 11 to 13 in the form of a fuel composition comprising a majority of a liquid hydrocarbon fuel.

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15. The composition according to any of claims 11 to 13 in the form of a lubricant composition comprising a majority of a liquid, semisolid or solid lubricant.

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16. A turbine fuel composition comprising a turbine fuel (jet fuel) and a composition as defined in any of claims 11 to 13.
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- 5 17. An additive concentrate for turbine fuels, comprising
- at least one composition as defined in any of claims 11 to 13,
  - if appropriate at least one diluent,
  - if appropriate at least one additive.
- 10 18. The use of a composition as defined in any of claims 11 to 13 for stabilizing nonliving organic material against the action of light, oxygen, and heat.
- 15 19. The use of a 2-alkylpolyisobutenylphenol-containing composition as defined in any of claims 11 to 13 as a fuel additive and for preparing fuel detergents.
- 20 20. The use of a composition comprising a Mannich adduct of a 2-alkylpolyisobutenylphenol and as defined in any of claims 11 to 13 as a detergent additive in fuel and lubricant compositions.
- 25 21. The use of at least one 2-alkylpolyisobutenylphenol and/or of at least one Mannich adduct thereof, obtainable by a process according to any of claims 1 to 10, for improving the thermal stability of turbine fuels.
22. The use of at least one 2-alkylpolyisobutenylphenol and/or of at least one Mannich adduct thereof, obtainable by a process according to any of claims 1 to 10, as an additive for turbine fuels for reducing deposits in the fuel system and/or combustion system of a turbine.